

SECTION III—REMARKS

This amendment is submitted in response to the Office Action mailed July 24, 2006. Claims 1, 11, 26, 27 and 28 are amended and claims 9-10, 12-20 and 29 are canceled. Claims 1-8, 11 and 21-28 remain pending in the application. Applicant respectfully requests reconsideration of the application and allowance of all pending claims in view of the above amendments and the following remarks.

Rejections Under 35 U.S.C. § 112

The Examiner rejected claims 1, 5, 9, 12, 15, 20, 21, 24 and 29 under 35 U.S.C. § 112, second paragraph, as indefinite for allegedly failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Specifically, the Examiner alleges that claims 9, 20 and 29 are indefinite because the claims require the active conditioning step to include “doing nothing,” which is not an active step. As to claims 1, 5, 12, 15, 21, 24 and 29, the Examiner alleges that the relative term “microgrooves” fails to convey the intended sizes or dimensions of the grooves, the sizes are not defined by the disclosure, and it appears the sizes/dimensions of microgrooves are not standardized and therefore apparent to one of ordinary skill in the art.

As to claims 9, 20 and 29, Applicant has adopted the Examiner’s suggestion to cancel these claims and amend the claims on which they depend to recite that conditioning is optional. Accordingly, claims 9, 20 and 29 have been canceled and claims 1 and 26 have been amended to indicate the optional nature of the conditioning. Applicant respectfully submits that this overcomes the Examiner’s rejections and respectfully requests withdrawal of the rejection.

As to claims 1, 5, 21 and 24, Applicant respectfully traverses the Examiner's rejection. The intended sizes or dimensions of the microgrooves are indeed described in the disclosure. Applicant respectfully directs the Examiner's attention to the specification at page 5, lines 20-28, which describe, with reference to Figures 3A-3D, the width W and pitch P of the microgrooves as follows:

In one embodiment, the widths W of individual grooves can be on the order of nanometers, while the separation P of the individual grooves (also known as the "pitch") can also be on the order of nanometers. In one particular embodiment, for example, the grooves can have a width W of 100nm and a pitch P of 150nm. Substantially larger and/or smaller groove widths and pitches are, of course, possible in other embodiments; both the widths and pitches of the microgrooves can vary from distances on the order of millimeters to distances on the order of angstroms, depending on the application.

Similarly, at page 6, lines 1-4, and with reference to Figures 3A-3D, the specification indicates that the microgrooves have a depth A *less than or equal to* the thickness t of the polymer film 410. At page 7, lines 7-11, the specification indicates that thickness t is in the micrometer or nanometer range and describes one embodiment in which thickness t is about 50 nm. It logically follows that the microgrooves also have a depth that is in the micrometer or nanometer range. Thus, based on the disclosure one of ordinary skill in the art would understand the intended dimensions conveyed by the term "microgrooves." Applicant therefore respectfully requests withdrawal of the rejection.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 1, 3-9, 12, and 14-20 as anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 5,705,096 to Kano *et al.* (“Kano”). Applicant respectfully traverses the Examiner’s rejections. A claim is anticipated only if each and every element, as set forth in the claim, is found in a single prior-art reference. MPEP § 2131; *Verdegaal Bros. v. Union Oil of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). For at least the reasons explained below, Applicant respectfully submits that *Kano* cannot anticipate these claims because it does not disclose every element and limitation recited therein.

Claim 1, as amended, recites a process combination including:

applying a polymer film to a transparent substrate;

optionally conditioning the polymer film; and

imprinting a plurality of microgrooves in the
polymer film by pressing a tool against the polymer film
and oscillating the tool in the plane of the polymer film, the
tool having a pattern including a plurality of microgrooves
formed in a surface thereof.

(emphasis added). The Examiner concedes that *Kano* does not disclose, teach or suggest a combination including the recited limitations. *Kano* therefore cannot anticipate the claim, and Applicant respectfully requests withdrawal of the rejection and allowance of the claim.

Regarding claims 3-8, if an independent claim is allowable, then any claim depending therefrom is also allowable. *See generally* MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 1 is in condition for allowance. Applicant submits that claims 3-8 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicant therefore respectfully requests withdrawal of the rejections and allowance of these claims.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 2, 10-11, 13 and 21-29 under 35 U.S.C. § 103(a) as obvious in view of, and therefore unpatentable over, various combinations of the following references: *Kano*, U.S. Patent Application Publication No. 2006/0050187 to Hirai *et al.* ("*Hirai*") and U.S. Patent Application Publication No. 2003/0035231 to Epstein *et al.* ("*Epstein*").

As to claims 2 and 11, if an independent claim is non-obvious, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, independent claim 1 is in condition for allowance. Applicant submits that claims 2 and 11 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicant therefore respectfully requests withdrawal of the rejections and allowance of these claims.

As to claim 21, Applicant respectfully traverses the Examiner's rejections. To establish a *prima facie* case of obviousness, the Examiner must establish that three criteria are met: (1) the prior art references must teach or suggest all the claim limitations;

(2) some suggestion or motivation to combine the references must be found in the prior art; and (3) there must be a reasonable expectation of success. MPEP § 2143. For at least the reasons explained below, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness.

Claim 21 was rejected as unpatentable over *Kano* in view of *Epstein*. Claim 21 recites a process combination including:

providing a transparent substrate having a polymer film applied on one side thereof;

providing a tool having a contact surface, the contact surface having a plurality of microgrooves formed thereon;

pressing the contact surface against the polymer film; and

oscillating the contact surface in a plane of the polymer film.

(emphasis added). The Examiner alleges that *Kano* discloses every element and limitation of this claim with the exception of oscillating the grooving tool. The Examiner cites *Epstein* to make up for this disclosure deficiency of *Kano*, and concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine *Kano* and *Epstein* to arrive at the claimed invention.

Applicant respectfully disagrees. The Examiner alleges that *Epstein* discloses, at paragraph [0070], the tooling for making films is rocked/rotated/oscillated to achieve

minute features in the machined layers. Applicant disagrees with the Examiner's characterization of *Epstein*. When read with its preceding paragraphs to put it in proper context, paragraph [0070] discloses that a diamond cutter is used to cut grooves in copper drum 43, and that the diamond cutter is oscillated while cutting grooves in the drum. But it is drum 43, not the diamond cutter, that is used to create grooves in a layer. There is no disclosure, teaching or suggestion in *Epstein* that drum 43 is oscillated while it is used to form grooves in a layer. *Kano* and *Epstein*, when combined, therefore cannot disclose, teach or suggest a combination including pressing the contact surface against the polymer film and "oscillating the contact surface in a plane of the polymer film." Applicant submits that *Kano* and *Epstein* therefore cannot obviate the claim and respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 22-28, if an independent claim is non-obvious, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 21 is in condition for allowance. Applicant submits that claims 22-28 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicant therefore respectfully requests withdrawal of the rejections and allowance of these claims.

Conclusion

Given the above amendments and accompanying remarks, all claims pending in the application are in condition for allowance. If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to allowance of the claims, the Examiner is requested to specifically point out where such teaching may be

found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

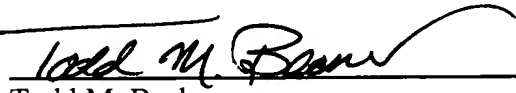
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Respectfully submitted,

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Date: 10-24-06



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